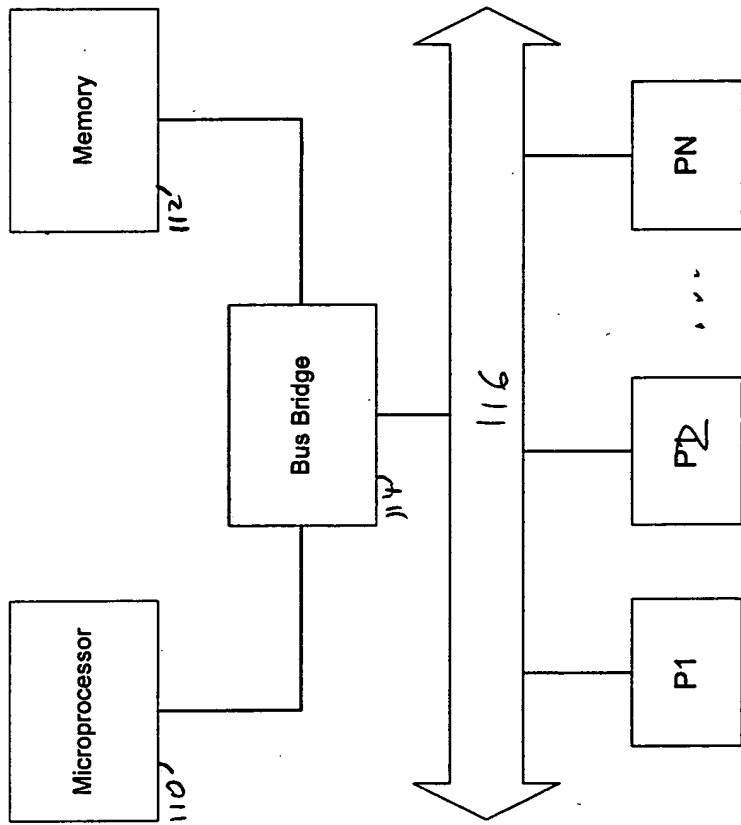


	BASE 10	BINARY
SCALAR MULTIPLICATION		
SCALAR MULTIPLICAND	24	0001 1000 (8-BIT)
SCALAR MULTIPLIER	200	1100 1000 (8-BIT)
SCALAR FINAL PRODUCT	4800	0001 0010 1100 0000 (16-BIT)
VECTOR MULTIPLICATION		
VECTOR MULTIPLICAND	(12, 5)	1100 0101 (4 BITS PER COMPONENT)
VECTOR MULTIPLIER	(7, 4)	0111 0100 (4 BITS PER COMPONENT)
VECTOR FINAL PRODUCT	(84, 20)	0101 0100 0001 0100 (8 BITS PER COMPONENT)

FIG. 1

any other type of bus system, such as a local bus, a system bus, or a network bus, may be used.



100

Fig 2

FIG. 2 is a block diagram of a processor 200 in accordance with one embodiment of the present invention. The processor 200 includes a Predecode Unit 212, a BIU 224, an L2 Cache 240, an I-Cache 214, a Decode Unit 220, an Execution Engine 230, a Store Queue 238, and a Data Cache 222. The processor 200 is connected to External Memory.

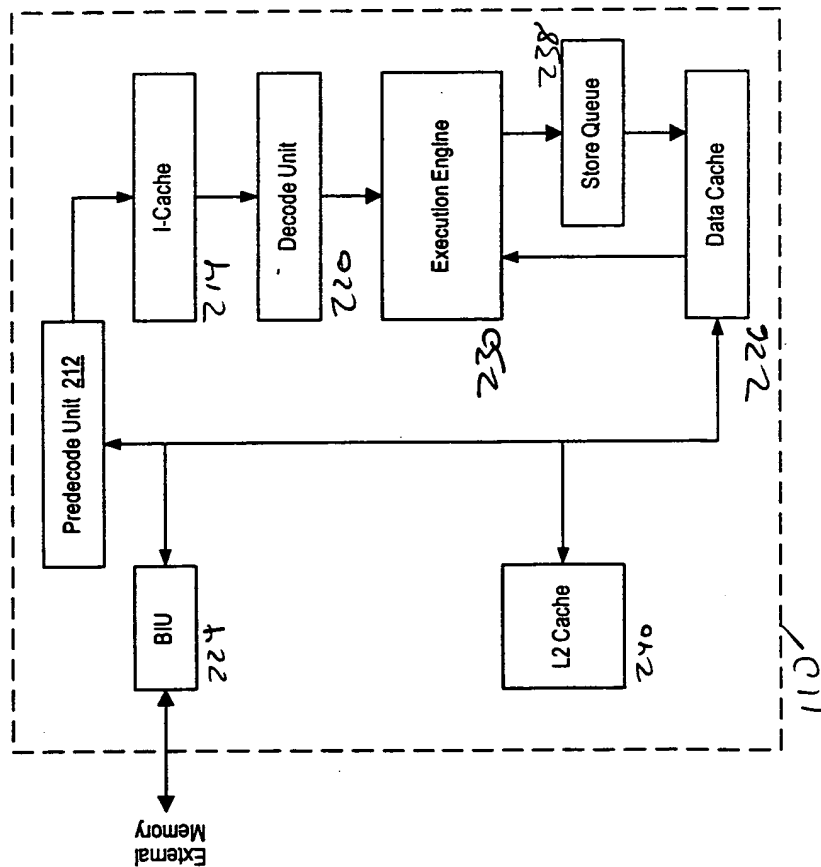


FIG. 2

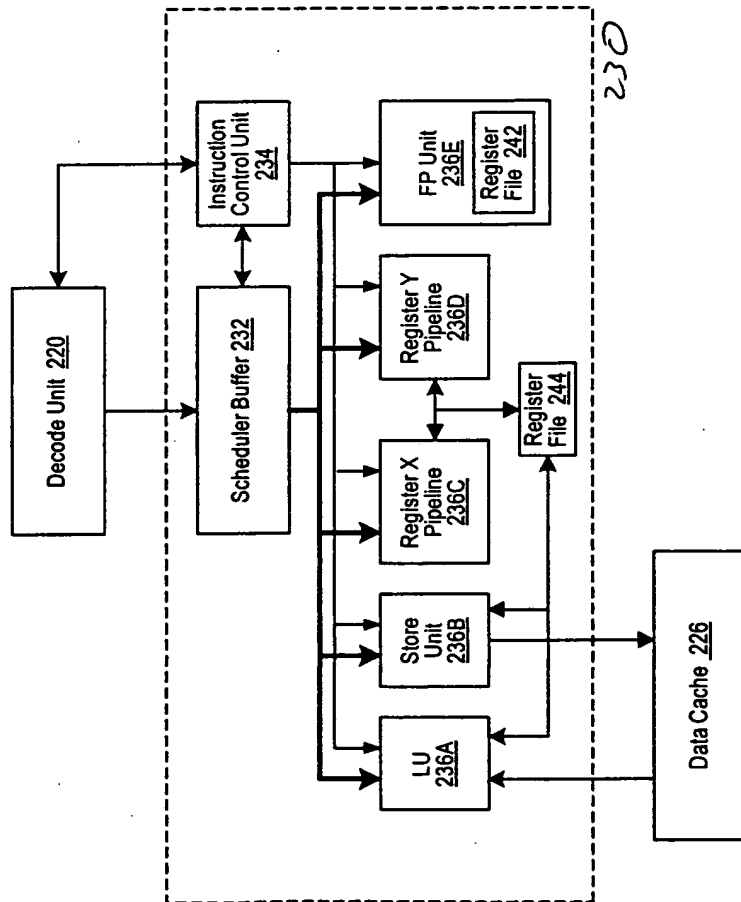
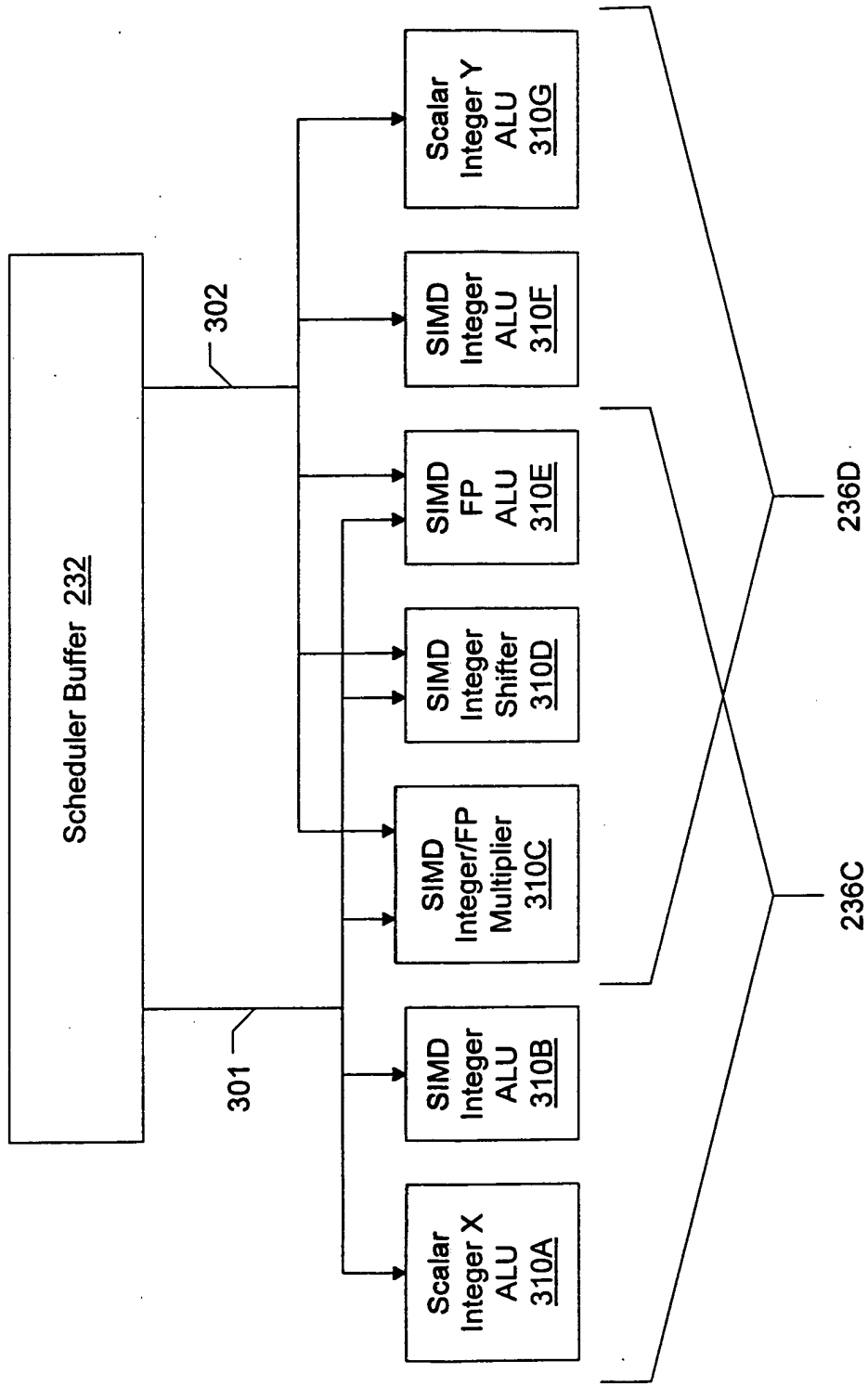


FIG. 4

FIG. 5



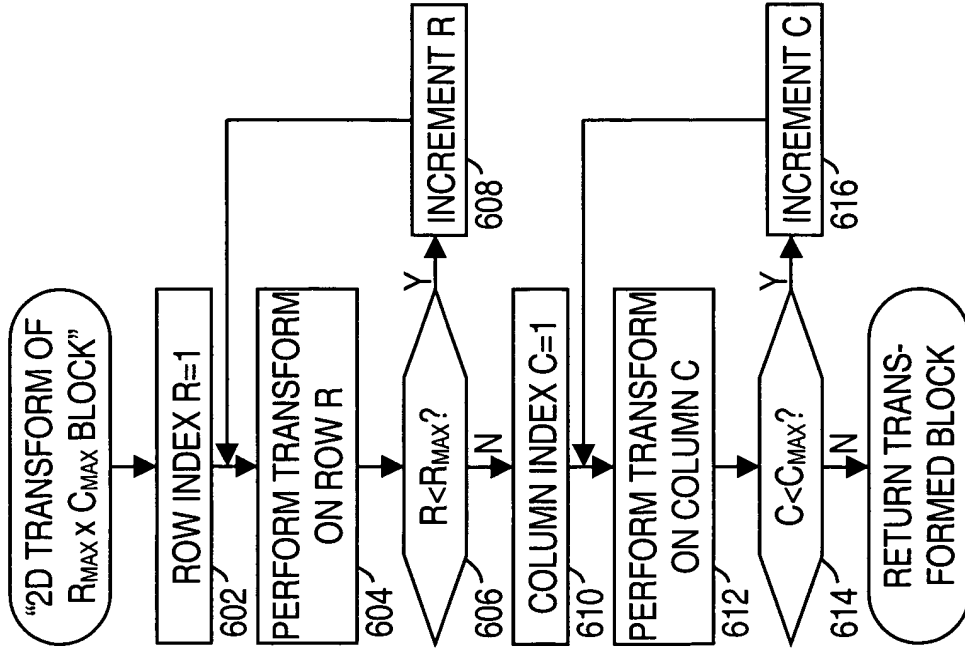


FIG. 6

FIG. 7A

A11	A12	A13	A14
A21	A22	A23	A24
A31	A32	A33	A34
A41	A42	A43	A44

FIG. 7B

AR1	AR2	AR3	AR4
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FIG. 7C

A11'	A12'	A13'	A14'
A21'	A22'	A23'	A24'
A31'	A32'	A33'	A34'
A41'	A42'	A43'	A44'

FIG. 7D

A1C'	A2C'	A3C'	A4C'
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FIG. 7E

A11"	A12"	A13"	A14"
A21"	A22"	A23"	A24"
A31"	A32"	A33"	A34"
A41"	A42"	A43"	A44"

A11	A12	A13	A14
A21	A22	A23	A24
A31	A32	A33	A34
A41	A42	A43	A44

FIG. 8A

AR1	AR2	AR3	AR4
-----	-----	-----	-----

FIG. 8B

A11'	A12'	A13'	A14'
A21'	A22'	A23'	A24'
A31'	A32'	A33'	A34'
A41'	A42'	A43'	A44'

FIG. 8C

A1C'	A2C'	A3C'	A4C'
------	------	------	------

FIG. 8D

A11"	A12"	A13"	A14"
A21"	A22"	A23"	A24"
A31"	A32"	A33"	A34"
A41"	A42"	A43"	A44"

FIG. 8E

FIG. 9A

A11	A12	A13	A14	B11	B12	B13	B14
A21	A22	A23	A24	B21	B22	B23	B24
A31	A32	A33	A34	B31	B32	B33	B34
A41	A42	A43	A44	B41	B42	B43	B44

FIG. 9A

AR1	BR1	AR2	BR2	AR3	BR3	AR4	BR4
-----	-----	-----	-----	-----	-----	-----	-----

FIG. 9B

A11'	B11'	A12'	B12'	A13'	B13'	A14'	B14'
A21'	B21'	A22'	B22'	A23'	B23'	A24'	B24'
A31'	B31'	A32'	B32'	A33'	B33'	A34'	B34'
A41'	B41'	A42'	B42'	A43'	B43'	A44'	B44'

FIG. 9C

A1C'	B1C'	A2C'	B2C'	A3C'	B3C'	A4C'	B4C'
------	------	------	------	------	------	------	------

FIG. 9D

A11"	A12"	A13"	A14"	B11"	B12"	B13"	B14"
A21"	A22"	A23"	A24"	B21"	B22"	B23"	B24"
A31"	A32"	A33"	A34"	B31"	B32"	B33"	B34"
A41"	A42"	A43"	A44"	B41"	B42"	B43"	B44"

FIG. 9E